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GUS 0292

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9 June 1959

MEMORANDUM FOR: Acting Chief, DPD

THROUGH: Chief, Operations Branch, DPD

SUBJECT: Detection of Proposed Vehicle

1. In answer to a query on detection of the proposed vehicle, the reply from ATIC was that a 70% reduction is exposed, but it means that there is only a 29% reduction in the probability of detection. The conclusion was that the vehicle would be detected by radar. If future study is desired, then model measurements, etc., would be required. This, combined with the OSI study on Bar Lock confirms the estimate in the GUSTO paper that the vehicle would be detected and tracked.

2. This re-emphasizes that any modification that delays the start of the Project or restricts performance be viewed with the above consideration. The attachment is for information on this subject.

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Lcdr USN
Intelligence Officer

Att: Paper on sonic boom

- 1 - Addressee
- 2 - Ch, Ops Br
- 3 - Intel
- 4 - Ops chron
- 5 - GUS chron

This document contains information
referring to Project GUSTO

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Att to: GUS 0292

The sonic boom created by this aircraft allows for another method of detection. It is estimated by traveling at Mach 3 at 90,000 feet that the area directly underneath the aircraft will have 119 db rise with an over-pressure of about .4 pounds per square foot under average conditions. This is the equivalent to thunder. At 25 nm either side of the track, approximately 110 db can be expected and correlated to a noise level of a riveter or an elevator train. At a distance of 50 nm either side of the track, 105 db can be expected, which is comparable to the noise level in a boiler factory. It must be assumed, therefore, that even in areas that do not give sufficient radar coverage, the sonic boom will be heard and investigations can determine the probable track. It is noted that at present there are a limited number of operational supersonic aircraft, and although aircraft capable of supersonic flight will be more prevalent in the planned operating period within the USSR, the sonic boom will create attention.

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